

Claims:

1. A temperate water supply system, comprising:
a heat exchanger, wherein said heat exchanger has a heat exchanger inlet and a heat exchanger outlet and a plurality of water conduits connected in parallel fluid communication with said heat exchanger inlet and with said heat exchanger outlet, wherein said heat exchanger inlet is connectable to a cold water source, and said heat exchanger outlet is connectable to at least one temperate water use point,
wherein, in use, said plurality of water conduits are filled with water and are in contact with ambient air, wherein said ambient air is warmer than said water at least a portion of the time, so that heat is transferred from said ambient air to said water.
2. A temperate water supply system as claimed in claim 1, further comprising a drip tray underneath said plurality of water conduits, for collecting condensate that forms thereon.
3. A temperate water supply system as claimed in claim 1, further comprising a temperate water storage tank, wherein said temperate water storage tank has a first tank inlet, a first tank outlet, a second tank inlet and a second tank outlet, wherein said first tank inlet is connectable to a cold water source, said first tank outlet is connectable to at least one temperate water use point, said second tank inlet is connectable to said heat exchanger outlet, and said second tank outlet is connectable to said heat exchanger inlet.
4. A temperate water supply system as claimed in claim 3, wherein said temperate water storage tank has a top and a bottom and said second tank inlet is positioned proximate said top, and said second tank outlet is positioned proximate said bottom.

5. A temperate water supply system as claimed in claim 3, wherein said temperate water storage tank has a top and a bottom and said second tank inlet is positioned at a point approximately halfway between said top and said bottom, and said second tank outlet is positioned proximate said bottom.
6. A temperate water supply system as claimed in claim 3, wherein said temperate water storage tank has a top and a bottom and wherein said first tank inlet is positioned proximate said bottom.
7. A temperate water supply system as claimed in claim 1, further comprising a fan for blowing ambient air over said plurality of water conduits.
8. A temperate water supply system as claimed in claim 7, further comprising a differential thermostat, wherein said differential thermostat is adapted to read the temperature of ambient air around said heat exchanger and the temperature of the water in the heat exchanger, and wherein the differential thermostat is operatively connected to said fan in such a way that said fan only operates when the temperature of the ambient air around said heat exchanger is higher than the temperature of the water in said heat exchanger by a selected amount.
9. A temperate water supply system as claimed in claim 7, wherein said fan is positioned downstream from a fan inlet, and said fan inlet is positioned in a living area of a residence.
10. A temperate water supply system as claimed in claim 9, wherein said temperate water supply system is positioned in a basement of said residence and a fan duct fluidly connects said fan inlet to said fan.
11. A temperate water supply system as claimed in claim 1, wherein said temperate water outlet is fluidly connected to a toilet.

12. A temperate water supply system as claimed in claim 1, wherein said temperate water outlet is fluidly connected to an inlet of a hot water tank.
13. A temperate water supply system as claimed in claim 1, wherein said heat exchanger outlet and said second tank inlet are positioned higher than said heat exchanger inlet and said second tank outlet, so that, when said temperate water storage tank and said heat exchanger are full of water, natural convection causes water to flow upwards through said plurality of water conduits and to circulate between said temperate water storage tank and said heat exchanger.
14. A temperate water supply system, comprising a heat exchanger, wherein said heat exchanger has a heat exchanger inlet and a heat exchanger outlet and at least one water conduit in fluid communication with said heat exchanger inlet and said heat exchanger outlet, wherein said heat exchanger inlet is connectable to a cold water source, and said heat exchanger outlet is connectable at least one temperate water use point, and wherein said at least one water conduit is configured to form a generally circuitous path between said heat exchanger inlet and said heat exchanger outlet to promote the transmission of heat from ambient air around said heat exchanger to water in said at least one water conduit.
15. A temperate water supply system as claimed in claim 14, wherein said at least one water conduit extends along a serpentine path.
16. A domestic water supply system comprising:

a temperate water supply system including a temperate water storage tank and a heat exchanger, wherein said temperate water storage tank has a first tank inlet, a first tank outlet, a second tank inlet and a second tank outlet, wherein said first tank inlet is connectable to a cold water source, wherein said first tank outlet is connectable to at least one temperate water use point, and wherein said heat exchanger has a heat exchanger inlet and a heat exchanger outlet and a plurality of water conduits connected in parallel fluid communication with said heat exchanger inlet and said heat exchanger outlet, wherein said heat exchanger inlet is connectable to said second tank outlet, and said heat exchanger outlet is connectable to said second tank inlet, wherein, in use, said plurality of water conduits are filled with water and are in contact with ambient air that is warmer than said water at least a portion of the time, so that heat is transferred from said ambient air to said water; and

a hot water storage tank having a hot water tank inlet and a hot water tank outlet, wherein said hot water tank outlet is connected to at least one hot water use point, and wherein said hot water tank inlet is connected to at least one of said temperate water tank outlet and said cold water source.

17. A domestic water supply system as claimed in claim 16, further comprising a drip tray underneath said plurality of water conduits, for collecting condensate that forms thereon.

18. A domestic water supply system as claimed in claim 16, wherein said temperate water storage tank has a top and a bottom and said second tank inlet is positioned proximate said top, and said second tank outlet is positioned proximate said bottom.

19. A temperate water supply system as claimed in claim 16, wherein said temperate water storage tank has a top and a bottom and said second tank inlet is positioned at a point approximately halfway between said top and said bottom, and said second tank outlet is positioned proximate said bottom.

20. A domestic water supply system as claimed in claim 16, wherein said temperate water storage tank has a top and a bottom and wherein said first tank inlet is positioned proximate said bottom.

21. A domestic water supply system as claimed in claim 16, further comprising a fan for blowing ambient air over said plurality of water conduits.

22. A domestic water supply system as claimed in claim 21, further comprising a differential thermostat, wherein said differential thermostat is adapted to read the temperature of ambient air around said heat exchanger and the temperature of the water in the heat exchanger, and wherein the differential thermostat is operatively connected to said fan in such a way that said fan only operates when the temperature of the ambient air around said heat exchanger is higher than the temperature of the water in said heat exchanger by a selected amount.

23. A domestic water supply system as claimed in claim 21, wherein said fan is positioned downstream from a fan inlet, and said fan inlet is positioned in a living area of a residence.

24. A domestic water supply system as claimed in claim 23, wherein said temperate water supply system is positioned in a basement of said residence and a fan duct fluidly connects said fan inlet to said fan.

25. A domestic water supply system as claimed in claim 16, wherein said temperate water outlet is fluidly connected to a toilet.

26. A domestic water supply system as claimed in claim 16, wherein said hot water tank inlet is connectable selectably to any one of said temperate water supply system outlet and said cold water source.

27. A domestic water supply system as claimed in claim 16, wherein said cold water source is connected to at least one cold water use point.
28. A method of providing temperate water in a building, comprising:
providing a source of water for said building; and
heating water from said source with air in said building prior to distributing said water through said building.
29. A method of providing hot water in a building, comprising:
providing a source of water;
heating water from said source with ambient air in said building;
sending said heated water to a hot water tank in said building; and
further heating said heated water in said hot water tank.
30. A method of inhibiting condensation on a toilet in a building, comprising:
providing a source of water for said building;
heating water from said source with air in said building prior to distributing said water through said building; and
supplying the toilet with temperate water.